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PLANTED TROUT IN THE PLATTE DRAINAGE

In view of the confusion in the distribution of trout, brought about by trout-planting, it is worth while to place on record the following notes by Ralph Montagu of Oroville, California.

In 1887 there were no trout in the Big and Little Laramie, or other tributaries of the North Platte, though a few years earlier trout had been planted in some of the headwaters. In 1888 Mr. Montagu planted trout in the Little Laramie at the foot of Sheep Mountain. At that time fish were found several miles higher up. In 1890, however, plenty were found about Sheep Mountain, and in 1899, both the Big and Little Laramie were thoroughly stocked, as was also the Platte from Fort Steele westward. Of the species found, the Eastern Brook Trout was most abundant. The Shasta Rainbow *(Salmo shasta)* was planted in the nineties when it seemed to crowd out the older stock, to be in turn crowded out by the Eastern Brook Trout *(Salvelinus fontinalis)*. There was a narrow strip extending into Montana which for some reason had no trout.

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CARANX BARTHOLOMAEI AND RUBER COMPARED

Jordan and Evermann (1896, "Fishes of North and Middle America") use the criterion of depth to differentiate these two species, giving that of *bartholomaei* as 3.5 and of *ruber* as 2.8.

Small specimens of *bartholomaei* are certainly deeper and the species appears not to reach so large a size. Of the series of 36 individuals in the American Museum of Natural History examined, only one exceeds 140 mm. in length to the base of the caudal. In that one (from Cienfuegos market, Cuba), however, which measures 211 mm., the depth is 3.0. As a matter of fact, *Caranx ruber* is frequently as deep as this. So the criterion of depth will not hold.

An excellent criterion which does hold, however, may be found in the number of gill-rakers. The lower limb of the first gill arch bears 17 to 19 gill-rakers in 12 *bartholomaei,* ranging from 40 to 211 mm. in length, usually 19. Whereas in 5 *ruber,* ranging from 96 to 217 mm. in length it bears 31 to 33 gill-rakers.

There is a distinct difference in contour in these two fishes. The lower jaw is distinctly projecting in *ruber,* the lower outline of the head more slanting, less horizontal, the fish's lines more symmetrical. Differences in general color mentioned by Jordan and Evermann are, of course, not appreciable in alcoholic specimens, but certain markings are. The young of *bartholomaei* evidently have the habit of hiding in floating weed, and I have taken a specimen from sargassum mottled so as to match admirably the intricacies of that habitat. Though it does not usually persist so long, there are traces of this mottling (in an eye-bar, and above the anal fin) in one alcoholic specimen, 102 mm. long. On the other hand, there is one specimen only 49 mm. long which shows no

such traces whatever and likely had none in life. A mark in *ruber* which is conspicuous in our 5 alcoholic individuals from 96 to 217 mm. in length is a bold black stripe on the lower lobe of the caudal fin, likely a recognition mark.

Data on depth in *bartholomaei* (from North Carolina; Florida; Havana market, Cuba) follows to give an idea of the change with age. Lengths are to base of caudal. Fourteen specimens 35 (38) to 70 mm. long have depth 2.1 to 2.3 (average 2.22); 21 specimens 70 (71) to 140 (138) mm., 2. 3 to 2.4 (average 2.33). The material shows a distinct loss of depth between 35 and 70 mm., none between 70 and 140 mm. It is not yet necessary to consider the 211 mm. specimen a different fish or even an abnormal individual, though we can only explain it otherwise by a second period of loss of depth. The first period is probably coincident with a change of habits, such a second period may be coincident with another habit change, after which the species is less accessible to, and rare in collections. Data on other large specimens of *bartholomaei* would be of interest, chance of confusion with *ruber* to be avoided by counting gill-rakers. The 5 *ruber* (96 to 217 mm. from Porto Rico, Havana, Turks Id.) have depth (in length to base caudal) 2.8 to 3.2 (average 3.06), the two smallest (96 and 108) average 2.90, the three largest (191 to 217), 3.17.

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ON CARANX CRYSOS, ETC.

The fishes recognized as *Caranx pisquetus* (West Indies to Brazil) and *Caranx caballus* (San Diego, Calif. to Panama) appear to be indistinguishable from *Caranx crysos* (New York to Florida). The fewer scutes credited to *caballus* is a matter of individual variation. The most anterior scutes near the angle of the lateral line are small and poorly

developed and the most posterior ones minute, so the personal equation enters into their count somewhat. Aside from this there is sufficient variation to bridge the difference, 42 to 51 counted in 8 specimens of *crysos* from North Carolina and Florida, in the American Museum of Natural History.

The longer pectoral credited to *caballus* and *pisquetus* is an age character. As is common in carangin species the pectoral increases irregularly with age and becomes more falcate. *Caranx crysos* over 125 mm. in length to base of caudal are sufficiently like the adult to be recognized for what they are at a glance. One of 129 mm., Havana Market, has pectoral 3.6 in length, .97 in head; 5 of 150 to 165 mm. from North Carolina and Florida, 3.0 to 3.2 (average 3.12) in length, .86 to .94 (average .91) in head; 3 of 215 to 235 mm. from North Carolina, 3.0 to 3.2 (average 3.07) in length, .84 to .86 (average .85) in head; one of 311 mm. from Brazil, 2.7 in length, .76 in head; one of 430 mm. from Cape San Lucas, 3.1 in length, .84 in head.

Caranx crysos (Mitchill), New York, was based on small specimens; large ones appear to be rare to the north.

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A BLACK PITUOPHIS

My friend, Dr. H. P. Loeding of Mobile, Ala., recently sent me for examination a large Pituophis, remarkable for being uniformly black above and below, except for a little rusty color on the anterior part of the head and flecks of rusty on the ends of some of the ventral scales.

This is apparently the first example of its genus to be reported from Alabama, and, so far as I know, there are no records for Georgia, Mississippi and Louisiana. This specimen was found dead on the

Hall's Mill Road, in the vicinity of high, sandy hills near Hall's Mill Creek, about 14 miles southwest of Mobile. A second specimen, which Dr. Loeding informs me is like this one, was taken alive at Grand Bay, 26 miles southwest of Mobile, by Mr. E. D. King, Jr. The latter, a female, was kept in confinement for over a week, but refused to eat, so was preserved and deposited in the Charles Mohr Museum in Mobile.

As Dr. Loeding and his friends have been collecting reptiles in the vicinity of Mobile for many years, it would seem as if the ordinary patterned form of Pituophis would have been found if it occurred at all commonly in Mobile County. On the other hand the black form was not found until this past season. Possibly, however, it has been confused in the field with some of the more common large black snakes, as *Drymarchon corais couperi* and *Coluber constrictor constrictor*.

The finding of two black specimens of Pituophis so far apart as twelve miles, and the absence of records for normally colored individuals, suggest the exclusive occurrence in this region of a black phase of the Bull Snake.

That all the North American bull snakes are very closely related can hardly be doubted. In fact it appears that only color pattern can be relied upon to distinguish them with certainty. We would expect, therefore, to find each species of Pituophis directly related to the one inhabiting the adjacent range. We would not then look for a black form occupying a range between the ranges of two closely allied patterned forms. In the United States National Museum there are two examples of Pituophis (No. 10,363) from Murphy (near Knoxville), Tenn., patterned like the eastern species, *P. melanoleucus*. Our black phase could therefore not extend farther north than this point, and it is very likely that it will prove to be restricted to the extreme South,

where it is now found. If the Gulf Coast may be regarded as in general unfavorable to the bull snakes, we may readily understand how a local color phase may have become established in a limited region of favorable habitat.

As there are no other specimens of Pituophis on record from this southern tier of states, and since it is chiefly on color characters that the nearest species, *P. sayi* and *P. melanoleucus* are distinguished, it is rather difficult to assign this black form definitely to either one. The two specimens from Murphy, Tenn., are undoubtely *P. melanoleucus*. This is perhaps the most western definite record for the eastern species. How much farther west it may extend can only be conjectured. Eastern records for *P. sayi* seem to be limited to Illinois, but numerous western species of reptiles are known east of the Mississippi River only in Illinois and Indiana. These facts, and the apparently unfavorable habitat of the lower Mississippi River region, suggest that *P. melanoleucus* may occupy all the favorable areas in the southern states as far west as the Mississippi River. In that case our black specimens may be regarded as a local phase of *P. melanoleucus*.

Carination and scutellation are admittedly unsatisfactory in distinguishing *P. sayi* from *P. melanoleucus* . Our black example has five rows of smooth scales on the sides, and Dr. Loeding informs me that the other specimen has the same number. This, while within the extremes of *P. melanoleucus*, comes perhaps closer to the average for *P. sayi*. Similarly, the rostral dividing the internasals for only two-thirds of their width rather suggests *P. sayi*. However, the Tennessee specimens mentioned above, are practically like this black individual in carination and shape and size of rostral, while definitely *P. melanoleucus* in pattern. It therefore seems more satisfactory to assign these black specimens provisionally to *P. melanoleucus*.

The finding of more examples of *Pituophis* from these southern states will be awaited with much interest.

Following is a description of the black example from 14 miles southwest of Mobile, now deposited, through the kindness of Dr. Loeding, in the United States National Museum (No. 62,340):—

Ventrals, 225; anal, single and entire; 57 divided caudals; upper labials, 8 on each side, lower labials, 13 on the left side and 15 on the right; one preocular on each side; 4 postoculars on the left side and probably 4 on the right; about 4 temporals in the first row; rostral dividing the internasals for two-thirds of their width; maximum number of scale rows, 29, anteriorly, 27; posteriorly, 21; keels on dorsal scales prominent above, progressively fainter on the sides, descending as low as the sixth row anteriorly and the third row posteriorly. Total length, 1,800 millimeters; tail length, 221 millimeters. Sex, female.

The coloration (by reference to Ridgway's Color Standards and Nomenclature) is as follows: Above, fuscus black; below, slate color; on the head, between the parietals and the rostral, and including the upper labials, most of the scales having in their centers a development of orange-cinnamon mixed with the fuscus black; occasional ventral scales, except on the anterior portion of the body, with flecks of perhaps an ivory yellow, or lighter, near their ends; and along the sides of the tail and near its end, on most of the subcaudal scutes, some lighter coloration showing faintly through the black.

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PILOT SNAKE SWALLOWING NEST EGG

I was greatly interested in the account recently published in Copeia of a Pilot Snake, *Elaphe obso-*

leta, swallowing a stone and of another swallowing a China nest-egg.

I recall that a few years ago at Jacob's Creek, Pa., my father heard a commotion one day among the fowls in the poultry house, and on investigation, found a large Pilot Snake with the chickens. The snake was killed and when examined carefully it was discovered that it had swallowed a China nest-egg. I have another record of a Pilot Snake swallowing an artificial egg.

I once saw a large female Pilot Snake in the act of swallowing a full-grown gray squirrel. How it managed to capture the squirrel was a mystery, but it may have secured it in a hole in a tree. The snake was on the ground in a forest. My uncle, who first discovered the snake, hit it with a stick. The squirrel, apparently dead, was being swallowed head first, and it was more than half down the snake's throat when first found.

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